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10/615,098

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EXAMINER

HANLEY, SUSAN MARIE

ART UNIT

PAPER NUMBER

1651

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/615,098

Applicant(s)

DEKKER ET AL.

Examiner

SUSAN HANLEY

Art Unit

1651

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 10-22, 31-44, 46, 47 and 49-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 10-22, 31-44, 46, 47 and 49-53 is/are rejected.
- 7) ☒ Claim(s) 12, 33, 44 and 47 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election of lard (glycerides) in the reply filed on 4/17/09 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 1, 10-22, 31-44, 46, 47 and 49-53 are under examination.

Withdrawal of Rejections

The rejections not explicitly restated below are withdrawn due to Applicant's response in the amendment filed 11/20/08.

Claim Objections

Claims 12 and 33 are objected to because of the following informalities: The word cellulases is misspelled. Appropriate correction is required.

Claims 44 and 47 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claimed compounds are not glycerides. Therefore, the claims fail to limit their respective independent claims.

Claim Rejections - 35 USC § 112

Claims 22, 31-40, 41, 42, 46, 47 and 50 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are drawn to a method of producing a vertebrate host mimic by providing a single lipid that is a glyceride and an enzyme isolated from a microorganism that is associated with the skin of a host vertebrate wherein the enzymes are capable of modifying the lipid, combining the lipid and the enzyme and collecting the modified lipid. The concept of isolating the enzyme from the microorganism (introduced in the amendment filed 7/11/07) is NEW MATTER since neither the specification nor the claims as filed teach that the enzymes are isolated from the microorganism. The specification and the original claims teach that the enzymes can be excreted from the microorganisms.

Claims 44 and 47 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims are directed to compounds that are carboxylic acids are derivatives thereof. The specification fails to teach how to make any compounds associated with the genus associated with these structures. Organic

synthesis is not a trivial science and requires a great deal of thought and experimentation to make even seemingly simple structures. Therefore, the claims are not enabled.

Claims 44 and 47 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims are directed to compounds that are carboxylic acids or derivatives thereof. However, the as-filed specification provides no specific description for any of the claim-encompassed compounds. The claims do not meet the written description provision of 35 USC § 112, first paragraph, due to lacking chemical structural information for what they are and chemical structures are highly variant and encompass a myriad of possibilities. The specification provides insufficient written description to support the genus encompassed by the claim.

Thus, the claims encompass the use of numerous potential compounds, and preparation thereof, for which no specific written description has been provided. The specification fails to provide a representative sample of the compounds encompassed by the claims, given the huge variation in properties encompassed by the current broad claim language. Because the claims encompass a multitude of products neither contemplated nor disclosed by the as-filed disclosure, it is clear that applicant was not in possession of the full scope of the claimed subject matter at the time of filing.

Claims 1, 10-22, 31-44, 46, 47 and 49-53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "glyceride" in claims 44 and 47 is used by the claim to mean the formula shown in both claims, while the accepted meaning is at least one hydroxy of glycerol is esterified. For examples a glyceride may be a monoglyceride (one hydroxy is esterified), a diglyceride (two hydroxy moieties are esterified) or a triglyceride (three hydroxy moieties are esterified) (see Lehninger page 284). The compound shown in each claim is not a glyceride since there is no glycerol backbone with at least one hydroxy that is esterified. It is a carboxylic acid or a derivative thereof. The term is indefinite because it is repugnant to the accepted meaning of the word.

Claims 1, 20, 43 and 51 and rejected because the phrase "sub-products" which modify the media is vague and indefinite. it is unclear what the sub-products are and "sub-product" is a relative term. It is unclear to what the sub-products are "sub" to.

Claims 1, 10, 11, 12, 20, 22, 31, 32, 41, 43, 46, and 51 are rejected because it is unclear how the microorganisms are associated with the skin of the host vertebrate. Are they in contact with the vertebrate how during the method of making the vertebrate host mimic? Or are they associated in some other way? "Associated" is also a relative term. It is unclear how closely associated the microorganisms are with the skin of the vertebrate host.

Claims 11 and 32 are rejected because "transient" is a relative term and no comparison is made. Also, it is unclear to what the microorganisms are "resident".

The compounds of claims 44 and 47 lack antecedent basis in claims 43 and 46, respectively, because they are not glycerides.

Claims 44 and 47 are rejected because the boxes around the atoms of the chemical structure are confusing. Molecular structures are written without boxes around the atoms. The meaning of the boxes is unclear.

Claims 10 and 31 are rejected because “generally” is a relative term and no comparison is made.

Claims 13-19, 21, 34-40, 42, 49, 50, 52 and 53 are rejected because they are dependent claims that do not overcome the deficiencies of the rejected independent claim from which they depend.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 10-22, 31-43, 46 and 49-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernier et al. (US 6,267,953; item 9 in the IDS filed 1/5/04) in view of Braks et al. (2000), Greenbaum et al. (US 3,220,921) , Lin et al. (US 6,425,202) and Hawley et al. (US 2,733,2521).

The claims are directed to a vertebrate host mimic for modifying the behavior of arthropods which are parasitic to vertebrate hosts and a method making thereof by providing a lipid based media, proving microorganisms that are associated with a skin of a vertebrate that are capable of excreting sub-products which modify the media upon

the lipid based media to produce a modified lipid based media, combining the lipid based media and the microorganisms and collecting the modified lipid based media. The claims are also directed to a method for trapping arthropods and a trap comprising the vertebrate host mimic. The microorganisms are capable of producing enzymes. The enzymes can be isolated. The claims are directed to a trap for the modified lipid based media wherein the vertebrate host mimic is enclosed in the trap.

It is noted that claim 43 recites the phrase "providing a single lipid, wherein the lipid is a glyceride". This phrase is interpreted to having open transitional language since it does not recite the closed language of "consisting of".

Bernier et al. disclose chemical compositions for attracting insects such as mosquitoes (col. 11, lines 28-35). Bernier et al. disclose that a blend of compounds is more effective than a single agent for attracting mosquitoes (col. 11, lines 20-38). Bernier et al. disclose a number of types of traps that can be adapted for the attractants, including a cylindrical lard trap (Table 10) as in claim 20 and 41, in part.

Bernier et al. do not teach that the trap comprises human skin sweat and a glyceride or lard, microorganisms, that the microorganisms produce various enzymes and compounds, that the microflora can be sterilized or that enzymes are isolated from the microorganisms or that the vertebrate host medium is enclosed in the trap.

Braks et al. disclose that human sweat contains microorganisms and that mosquitoes are attracted to human sweat that has enhanced microbial growth. Braks et al. discovered that sterilized sweat comprising microorganisms (instant claims 1, 19, 20,

22, 41, 43, 46 and 49, in part) that had been incubated for some time was the most effective for attracting mosquitoes compared to non-incubated or non-sterilized sweat (Table 1, p. 131). Braks et al. teach that the production of compounds that are attractive to mosquitoes is probably due to the skin bacteria processing sebum substrates (p. 133, bridging column). Bacteria on the skin naturally produce the claimed enzymes and secrete compounds, instant claims 12-18 and 33-38. The microorganisms in turn excrete the enzymes that modify the excreted lipids. The enzymes are isolated since they are excreted from the microorganism, in instant claims 22 and 31-43, in part. The microorganisms are on the skin and therefore resident and transient since they can be wiped off (instant claims 11 and 32). Humans sweat all over and therefore microorganisms are distributed all over the skin (instant claims 10 and 31).

Greenbaum teaches that baits that are suitable for insects such as mosquitoes, from a list of 10, includes lard (glycerides), instant claims 1, 10-22, 31-43, 46, and 51-54 (in part) from a list of 64.

Hawley teaches that lard comprise of glyceride fats (col. 2, lines 66-68). Hawley is an evidence document to show that lard comprises of glycerides. The disclosure of lard (glycerides) meets the limitations of a lipid based medium as in claims 1, 20, 22, 41, 43, 46, 49 and 50. This is an evidence document cited to show that lard naturally includes glycerides.

Lin teaches that a trap for mosquitoes can comprises a bacterial decomposition composition that is placed inside a trap for mosquitoes (col. 4, lines 47-67 and claim 11 of the patent), instant claims 20 and 41, in part. The trap is a cylinder (see figure 2A).

It would have been obvious to one of ordinary skill in the art, a biochemist, at the time the invention was made to use lard as an attractant for mosquitoes. The ordinary artisan would have been motivated to do so because mosquitoes are foragers and lard is a nutritive source for mosquitoes. The ordinary artisan would have had a reasonable expectation that mosquitoes would be attracted to lard because it is a source of food.

It would have been obvious to one of ordinary skill, a biochemist, in the art at the time the invention was made to combine lard and humans sweat comprising microorganisms and enzymes to make an attractant to trap insects. The ordinary artisan would have been motivated to do so since each component is known to attract insects individually. It would have been obvious to combine two components known to have the same function for an additive effect. The ordinary artisan would have had a reasonable expectation that one could successfully combined sweat comprising microorganisms and lard which contains glycerides because both components are known to attract insects individually.

It would have been obvious to one of ordinary skill in the art, a biochemist, at the time the invention was made to substitute the lard/sweat composition taught by the combined references of Braks, Hyatt and Hawley for the chemical blend in the traps taught by Bernier. The ordinary artisan would have been motivated to do so because

each composition is known to have the same function, attracting insects. Hence, the substitution is no more than the predictable use of prior art elements according to their established functions resulting in the simple substitution of one known element for another. The ordinary artisan would have had a reasonable expectation that one could successfully combine the lard cylindrical trap of Bernier with the sweat/lard combination of the combined disclosures since the lard/sweat combination is known to attract insects and Hyatt shows that granular food can be used in a trap to attract insects. Furthermore, the cylindrical lard trap of Bernier would naturally attract insects on its own owing to the attractant ability of lard by itself.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to place the sweat (microorganisms)/lard (glycerides) bait within the lard container of Bernier. The ordinary artisan would have been motivated to do so in order to lure the mosquitoes into the trap for trapping. The ordinary artisan would have had a reasonable expectation that one could trap mosquitoes in a cylindrical lard trap containing lard and microorganisms because lard and microorganisms are a suitable bait to which mosquitoes are attracted.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUSAN HANLEY whose telephone number is (571)272-2508. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Susan Hanley/
Examiner, Art Unit 1651

/Irene Marx/
Primary Examiner
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